Towards a More Comprehensive Catalogue of Life Checklist

Diana Hernández-Robles[‡], Camila Plata[‡], Markus Döring[§,‡], Olaf Bánki[‡,|]

‡ Catalogue of Life / Species 2000, Weesp, Netherlands
§ GBIF, Copenhagen, Denmark
| Naturalis Biodiversity Center, Leiden, Netherlands

Corresponding author: Diana Hernández-Robles (diana.hernandez@sp2000.org)

Abstract

The Catalogue of Life (COL) Checklist 2023 (Bánki et al. 2023) includes over 2.1 million accepted species underpinned by a large international community of more than 500 expert taxonomists. The 164 supporting sources are available through ChecklistBank, a publishing platform and open data respository with a focus on taxonomic and nomenclatural data sources. It also includes all the tools and processes that are needed to assemble the COL Checklist. ChecklistBank is jointly developed by Catalogue of Life and the Global Biodiversity Information Facility (GBIF). The results presented here build on efforts carried out in the European Union-funded project Biodiversity Community Integrated Knowledge Library (BiCKL).

Despite all the global efforts over the past 27 years, there still remain significant gaps in the COL Checklist: incompleteness, outdated data in several taxonomic groups, lack of synonyms and a considerable time lag in being up-to-date with continuously published literature. However, there are not enough experts to check and update it as fast as new information is published e.g., descriptions of new species, covering lesser-known taxonomic groups, clarifying synonym relations, interpreting new classifications. For that reason, there is an intrinsic need to rely on a new process that combines:

- the expertise of taxonomists contributing to well curated databases with global coverage;

- recent knowledge compiled in checklists and catalogues published at regional and national scales in different formats and through different platforms;
- new and improved informatics tools that can harvest those data with text mining schemas and integrate them into ChecklistBank and the COL Checklist based on revised and supported criteria and a careful quality control that will avoid the inclusion of errors or doubtful information.

Combining these elements would result in an extended release of the COL Checklist that is an enriched version, integrating a wider variety of taxonomic sources and informatic developments not considered previously. This process will feature sequential releases that will address different needs and will be useful for delivering taxonomic services for GBIF and ultimately replacing its backbone taxonomy (GBIF Secretariat 2022). The extended release of the COL Checklist will be more comprehensive, including names that will fill significant gaps, synonyms and fossil taxa, and a single consensus classification that avoids conflicts.

Keywords

taxonomy, species list, extended catalogue, taxonomic backbone, GBIF, ChecklistBank, COL Checklist

Presenting author

Diana Hernández-Robles

Presented at

TDWG 2023

Funding program

Conflicts of interest

The authors have declared that no competing interests exist.

References

- Bánki O, Roskov Y, Döiring M, Ower G, Hernández Robles DR, Plata Corredor CA, Stjernegaard Jeppesen T, Örn A, Vandepitte L, Hobern D, Schalk P, DeWalt RE, Keping

M, Miller J, Orrell T, et al. (2023) Catalogue of Life Checklist (Annual Checklist 2023). Catalogue of Life. URL: https://doi.org/10.48580/dfsr

- GBIF Secretariat (2022) GBIF Backbone Taxonomy. Checklist dataset. Release date: 2022-11-23. URL: https://www.gbif.org/dataset/d7dddbf4-2cf0-4f39-9b2a-bb099caae36c